2010's HOT SUMMER AND MORTALITU IN THE RUSSIA'S EUROPE: PREMILIMINARY ASSESMENT

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Background and Aims: In 2010 European Russia experienced extreme heat in summer: high temperature for over 1,5 months exceeding the established long-term average norm by more than 5ºC in 43 regions. Moscow, for example, experienced an unprecedented wave of continuous heat for 53 consecutive days, during extreme heat, maximum concentration CO up to 30mg/m^3 and PM_{10} - 1 500 µg /m^3, daily average PM_{10} levels reached 431-906 µg /m^3.

Methods: Based on official monthly governmental reports, a preliminary assessment of the phenomenon in European Russia can be undertaken.

Results: Now the analysis shows that cumulative excess mortality in July and August of 2010 was 54 thou deaths in the regions affected by extreme heat, compared to the same period in 2009. The relative increase in monthly total mortality rates was 50-60% in some regions. The greatest increase in cause-specific mortality was considered to be a result of cardiovascular (31,500 additional deaths), respiratory (1,500) and some external (1,700) causes.

In Moscow yet in July and August of 2010 it increased by 11,000 deaths (60% to that of 2009). It included 5,951 deaths from cardio-vascular diseases, and 339 deaths from respiratory diseases. In August these became the greatest increase of respiratory cases, that could be attributed to the forest and peat fires. All external causes increased mortality by 1,100 cases, including 101 suicides (a relative increase of 77%); mortality from infectious diseases increased by 61,5%, and mortality from cancer increased by 70.2%, possibly due to postponed surgical interventions, and lack of air conditioning in post-operation rooms. A time-series analysis of daily data on cause-specific mortality will be available only in end 2011.